Sphingolipids of *Leishmania (Viannia) braziliensis* promastigotas.

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*Leishmania (Viannia) braziliensis* is a parasite widely distributed in Brazil and the causative agent of cutaneous leishmaniasis and occasional mucosal or mucocutaneous diseases. *Leishmania* expresses a characteristic class of sphingolipid: the inositol phosphoceramide (IPC). The main IPC species described for *Leishmania (Leishmania) major* and *Leishmania (Leishmania) amazonensis* presents 778 m/z represented by ceramide d36:1, containing 16:1 sphingosine and 18:0 fatty acid (Hsu et al. 2008, and Godoy et al. 2011). In this study we isolated IPC from promastigotes of *L. braziliensis* and analyzed by electrospray ionization-mass spectrometry by positive and negative ion modes. In these conditions, it was identified IPC species at m/z 752 (d32:0), m/z 778 (d34:1), m/z 780 (d34:0), m/z 806 (d36:1), and m/z 808 (d36:0). IPC of *L. braziliensis* displays a prominent ion at m/z 778.4, and its structure was determined as d20:1/14:0, differing from IPC (d16:1/18:0) isolated from *L. major* and *L. amazonensis*, suggesting expression of sphingosine synthases with different specificities, as serine stearoyltransferase for *L. braziliensis*, and serine myristoyltransferase for *L. major* and *L. amazonensis*. These results indicate that *L. braziliensis* expresses IPC with a longer sphingosine compared to other *Leishmania* species. By immunofluorescence assays using monoclonal antibodies specific to IPC (LST-1) and to promastigote glycolipids (SST-1) it was verified that only SST-1 recognizes live parasites. LST-1 was only reactive with 0.1% saponin permeabilized parasites. By confocal microscopy it was demonstrated that while SST-1 labels GLs at parasite surface, LST-1 labels parasite internal IPC, suggesting that IPC may be located at inner leaflet membrane. These results may contribute to better understand parasite IPC biological roles and to identify new targets for chemotherapies against leishmaniasis.

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Key words: *L. (V.) braziliensis*, sphingolipids, inositol phosphoceramide